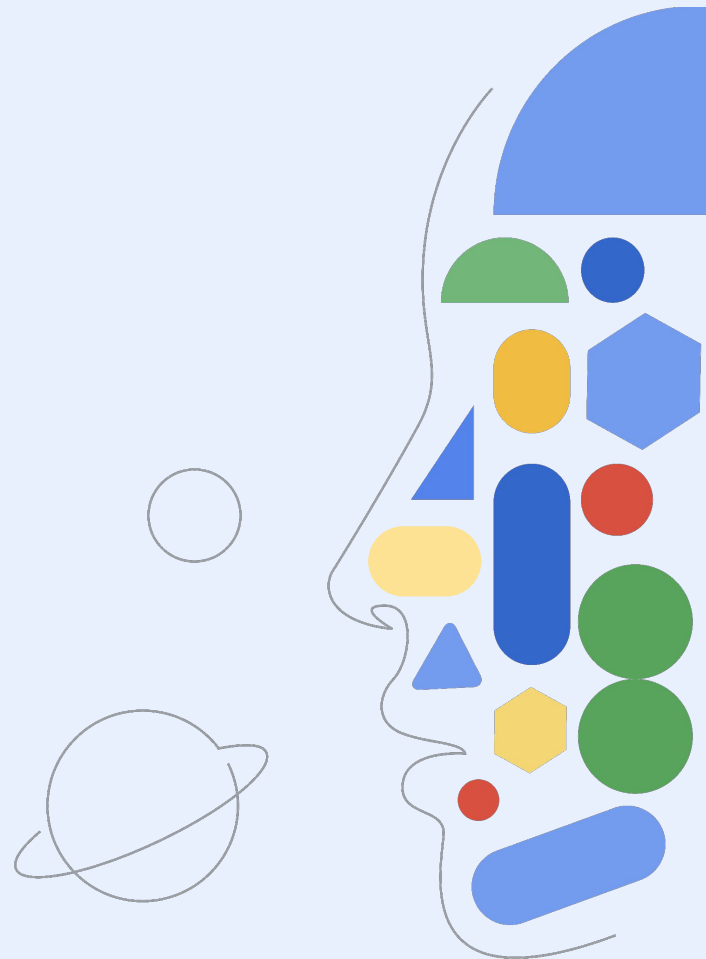


Google for Education

AI & the Future of Education

Chris Daugherty - EDU Strategy Lead for Central U.S.



**Making AI helpful
for everyone**

What exactly is AI?

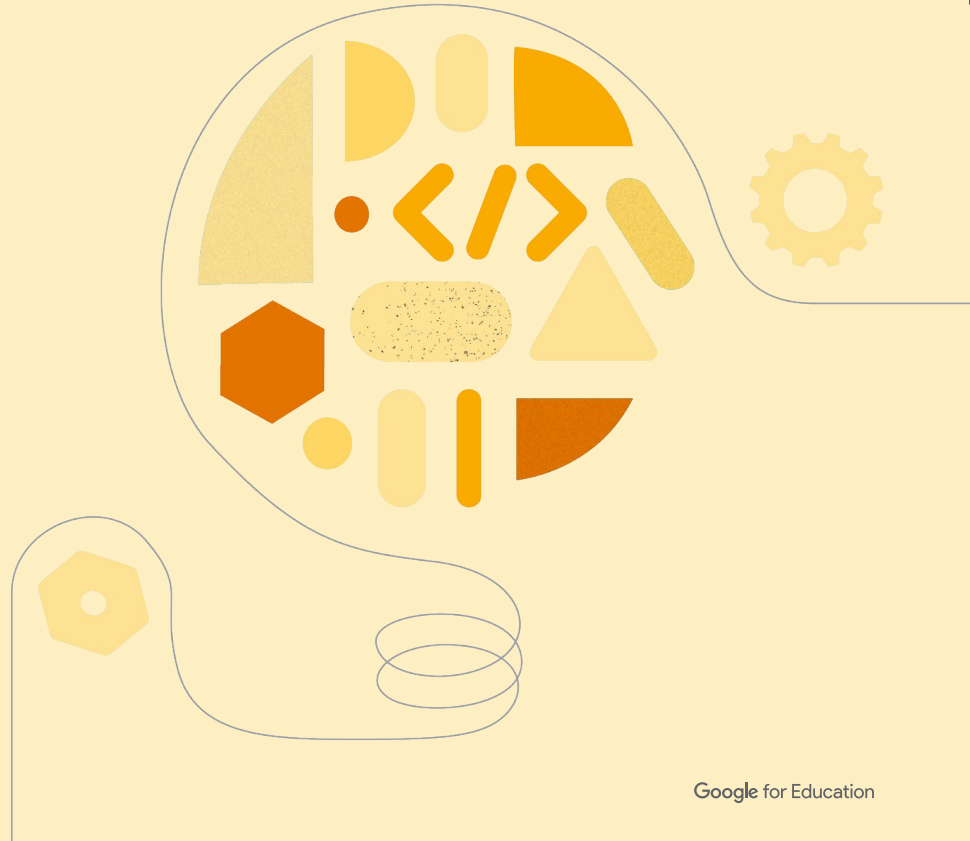
AI: the field of computer science that deals with creating intelligent machines

Generative AI: Generative AI or generative artificial intelligence refers to the use of AI to create new content, like text, images, music, audio, and videos.

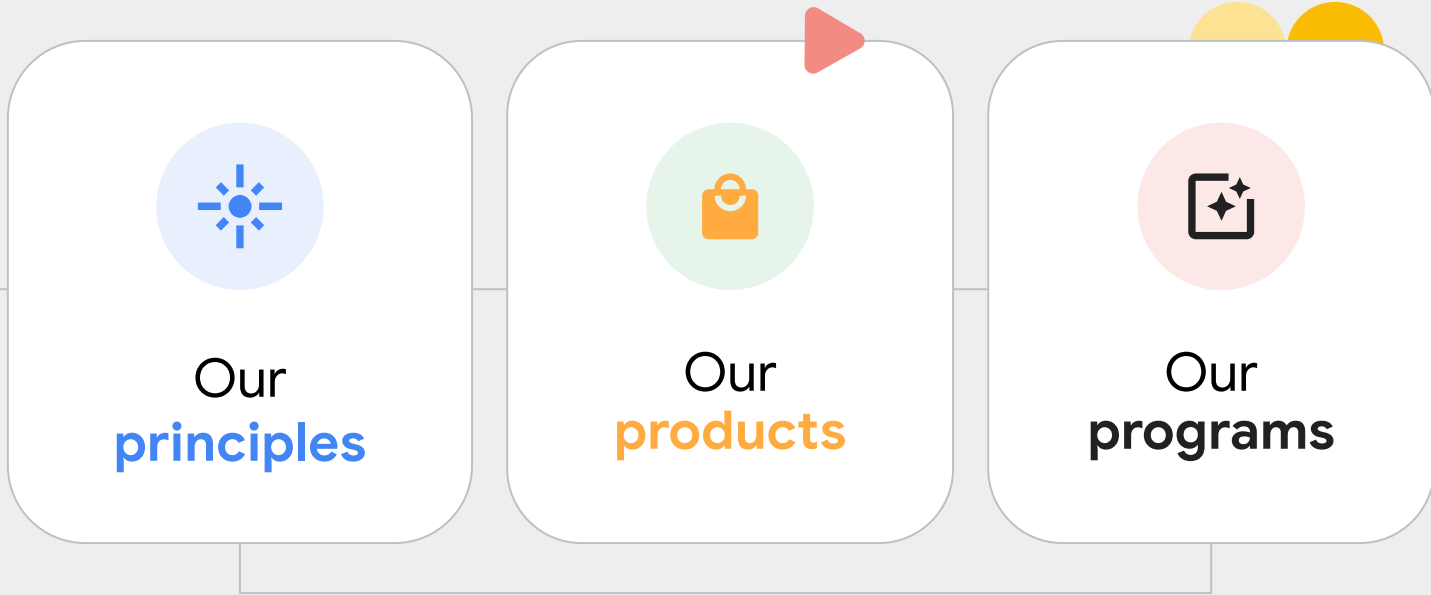
Machine learning: the technique that allows machines to learn autonomously from data

Large language models (LLMs): machine learning models that are really good at understanding and generating human language

Sources: 1) Bard 2) [What are Large Language Models?](#) 3) [Google Cloud Generative AI](#)



Our AI approach is multilayered and rigorous



Feeds into our approach to AI in education

Our AI **principles** (ai.google)

1

**Be socially
beneficial**

2

Avoid creating
or reinforcing
unfair bias

3

Be built and tested
for safety

4

Be accountable
to people

5

Incorporate
privacy design
principles

6

Uphold high standards
of **scientific
excellence**

7

Be made **available**
for users that accord
with these principles

AI to meet the needs of different types of users

Consumer



Gemini

Google Workspace



Gemini for
Workspace

Enterprise (Cloud)



Vertex AI

Key issues in AI for Education



Privacy

- Cannot risk sharing user data, need ability to manage where the data lives and how it is governed / retained



Safety

- Manage the risk not just of hallucinations but also what happens to certain inputs
- Need a feedback loop on usage and quality



Not just accuracy, but appropriateness

- Answers may be correct but inappropriate
- Even if appropriate, may be pedagogically unhelpful
- Requires customizing

Enterprise approach

- Like any enterprise technology, need to be able to manage your model as your business needs require it
- This becomes an integral part of your value, and indeed, your IP
- Question is not "AI or not?". The question is: "Which AI in which context, for what purpose.".

Use Cases for AI in Education



Student Success

- Equitable Access
- Personalized Content and Interactions
- Consistent interface across entire student lifecycle
- Learning Pathways



Teacher/Researcher and Enablement

- Automate Content and Syllabus Creation
- Personalized Exercise creation
- Grant proposals
- Research paper exploratory
- Lower administrative burden



Administration and Student Support

- Student Engagement Metrics
- Model Quality Control
- Discoverability
- Cost Management
- Marketing and Enrollment support

What would be your “magic wand” functionality for AI for your campus?



AP photo

Elementary school teachers picket against use of calculators in grade school
The teachers feel if students use calculators too early, they won't learn math concepts

Math teachers protest against calculator use

How the conversation has changed in a year

2023	2024
Value Vs Risk: Should we block this?	Mitigation of Risk: How do we get this done right?
Overwhelmed by potential use cases	Prioritization: Automation of “taxing tasks” and Personalization
Amount of data is key to determine “the winner” in each segment	Quality of data and process change is even more important
How can I compete using this?	Who should I partner with for this?

01

**How is AI (finally) making
personalized learning
possible?**

02

**What are considerations
when it comes to moving
from idea to production?**

03

What are the things you started with? What are you focusing on in the next 12 months?

04

What types of partnerships are you investing in?

Google Cloud

A horizontal line with four colored segments: red, blue, green, and yellow.

**What have we developed
to support customers in
this AI/ML era?**



Consumer



I'm Bard, your creative and helpful collaborator. I have limitations and won't always get it right, but your feedback will help me improve.

Not sure where to start? You can try:

Draft a packing list for my weekend fishing and camping trip

Write some lyrics for a heartbreak anthem titled "Lovesick"

I want to write a novel. How can I get started?

Enter a prompt here



Google Cloud

Enterprise Enhancement



Google Workspace



Generative AI Platform

Conversational and Search
Generative AI API's
End to End MLOPs



vertex.ai



MedLM

Google Cloud has been on this data security journey for a while now

2018

GOOGLE CLOUD

Incorporating Google's AI Principles into Google Cloud

Jun 07, 2018 · 2 min read

AI & Machine Learning

Sharing our data privacy commitments for the AI era

October 14, 2020

Introducing Google's Secure AI Framework

Jun 08, 2023
6 min read

Today we're releasing a conceptual framework to help collaboratively secure AI technology.

AI & Machine Learning

Accelerating generative AI around the world with new data residency guarantees

November 14, 2023

- **Customers control their data and models and control access to them.** Organizations dictate who can access their data and models and how these assets can be used.
- **Customers control where and how data and models are stored.** Organizations can opt to store data in locations they select, preventing deployments outside specified geographic boundaries.
- **Customer data is never used by Google.** We do not use customer data to train our models, or models used by others, without permission.
- **Customer data is available when it's needed.** Our data centers and network architecture are designed for maximum reliability and resiliency, meaning our AI products are held to the same high availability standards as other Google Cloud services.
- **Customers enjoy enterprise-grade security and privacy defaults.** Whether for specific security needs or to meet regulatory requirements, Google Cloud's AI services let organizations apply privacy protections and fine-grained security controls across their data and models.

2023

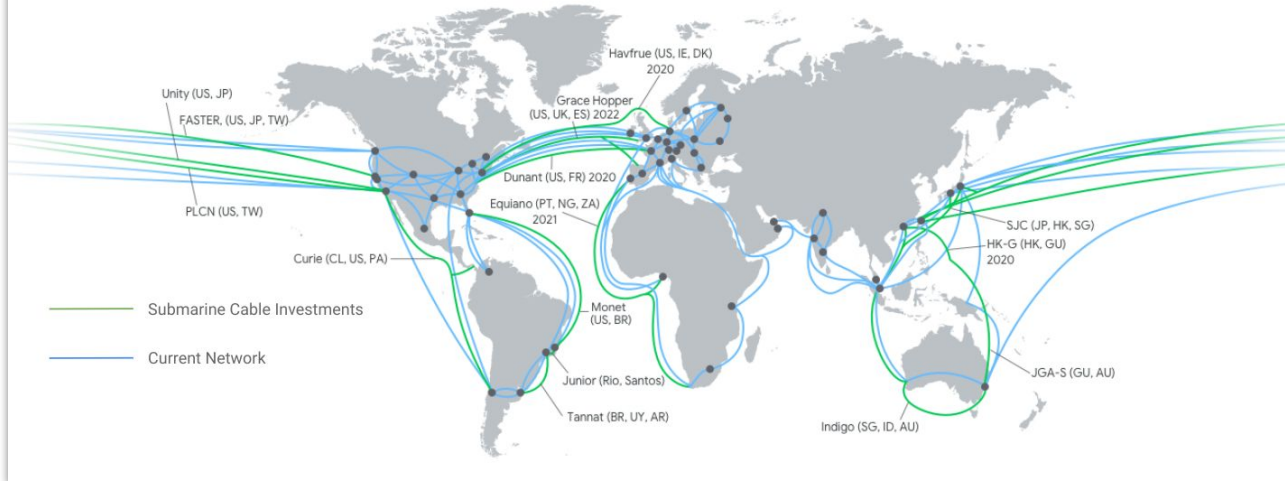
GOVERNOR PARSON ANNOUNCES GOOGLE'S SELECTION OF KANSAS CITY FOR NEW DATA CENTER



MARCH 20, 2024

KANSAS CITY — Today, Governor Mike Parson announced that Google will locate a new data center in Kansas City, investing \$1 billion and supporting up to 1,300 jobs. The data center, the company's first in Missouri, will accompany contributions from Google to the region's workforce and energy infrastructure.

Google Cloud's Global Network



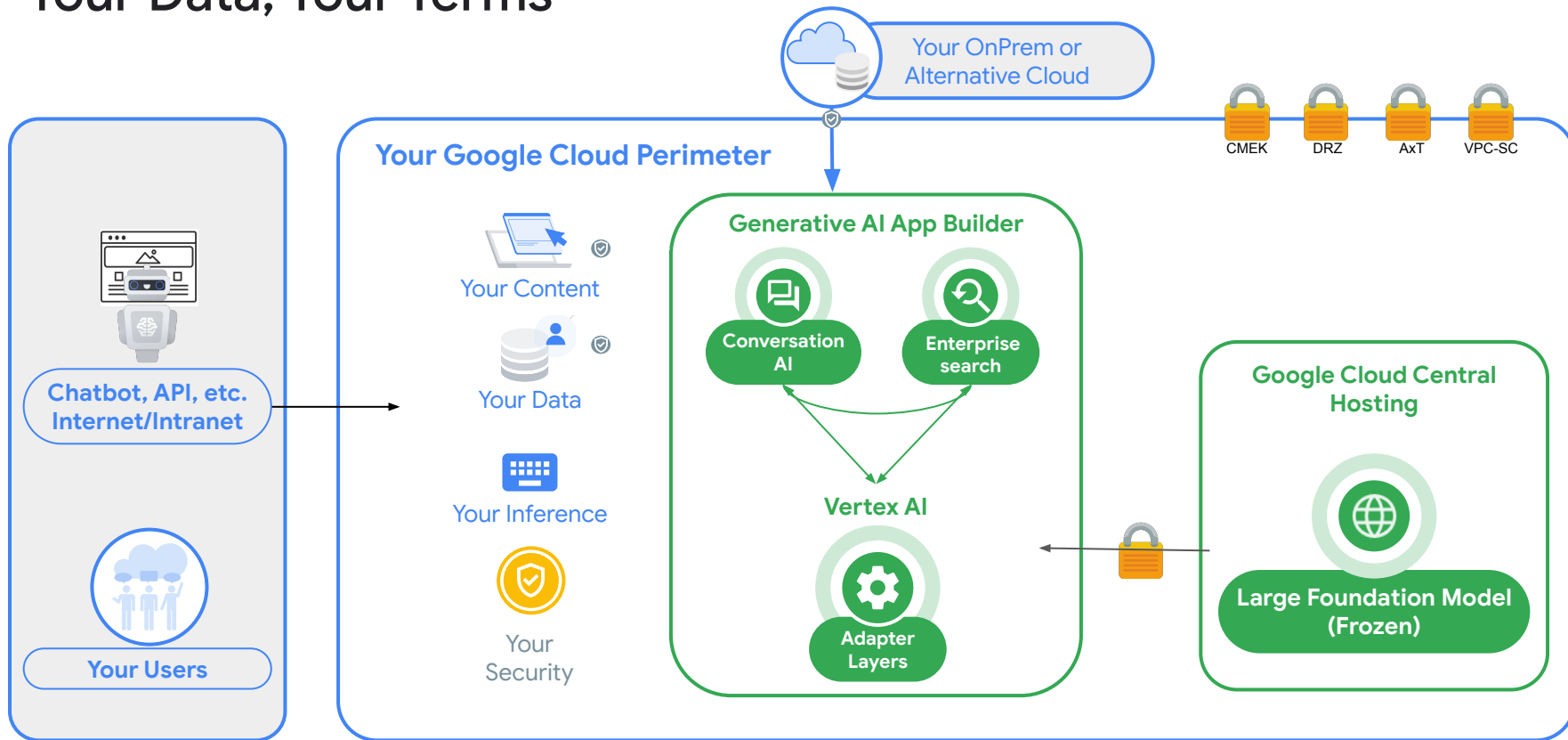
Google named a Leader in The Forrester Wave: AI Infrastructure Solutions, Q1 2024

March 18, 2024

“Google has strengths across the board with the highest scores of all the vendors in this evaluation.” - The Forrester Wave™: AI Infrastructure Solutions, Q1 2024

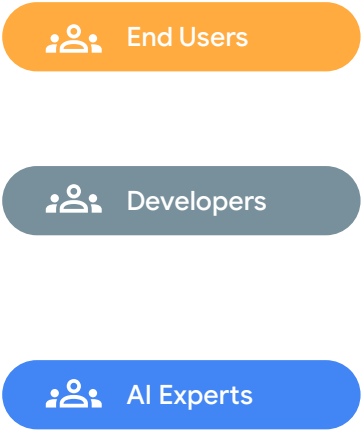
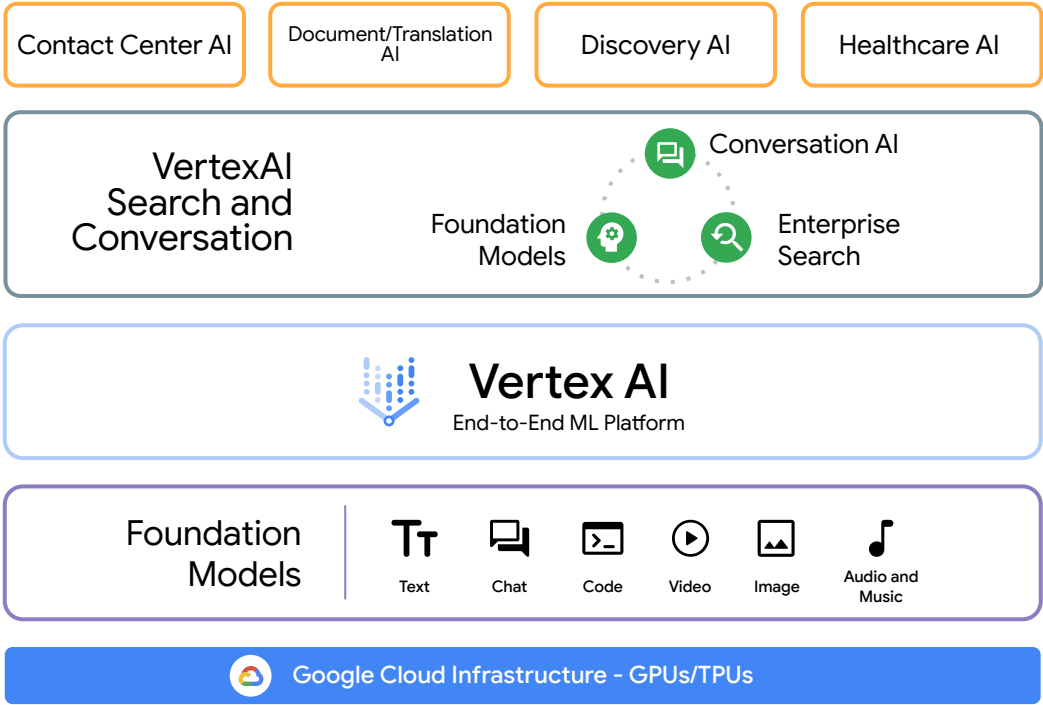
“Google offers the whole package for AI workloads. AI continues to be a core capability of Google’s many consumer and business services such as internet search and advertising. So, to say Google has a head-start is an understatement.” - The Forrester Wave™: AI Infrastructure Solutions, Q1 2024

Your Data, Your Terms



Google's GenAI Platform and Strategy

Within your Google Cloud Org



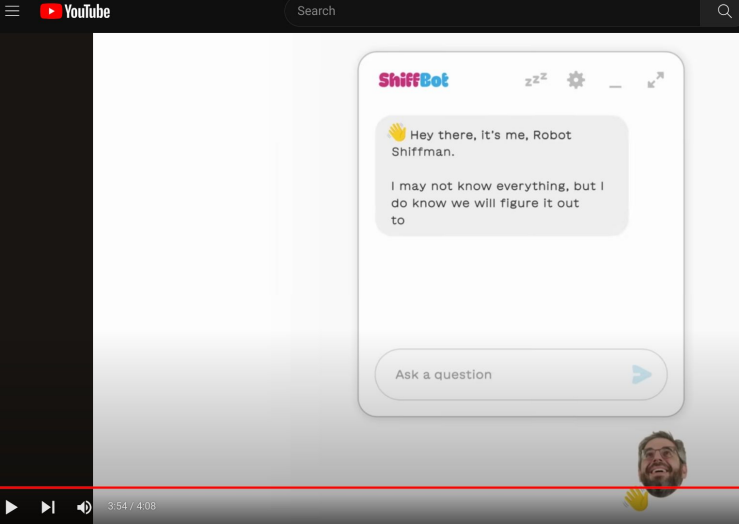
So we did a thing

We mirrored the MOREnet site last night

We did this with Vertex AI Conversation

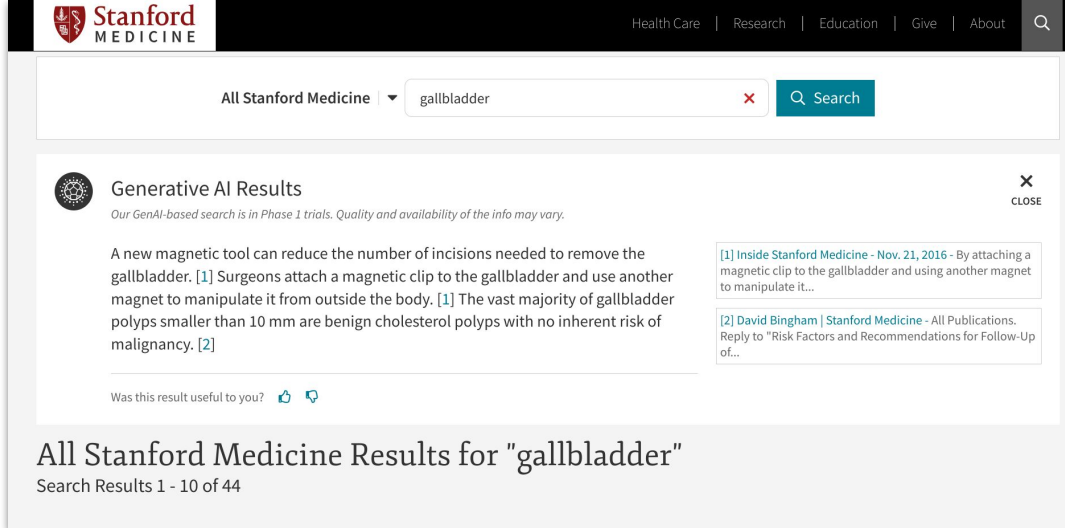
The building of this of process took 4 steps (no coding)
and 4 hours

We've done nothing else

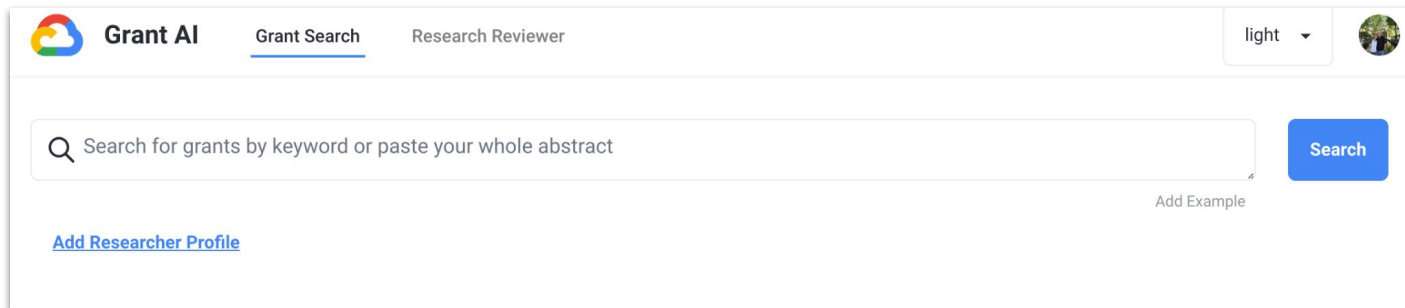


Teacher x Large Language Models | Google Lab Sessions

ShiffBot - teaching and learning



Enterprise Search @ Stanford



Discussion

How do you get started?



Do you have a Google Cloud org stood up?

Workshop options for “Shark Tanking” use cases, feedback, GCP deepdive, etc

Explore Student Assistant, GrantAI, Adjudicator and other solution demos.

Higher EDU - on demand training offering for all students, staff, faculty.

<https://cloud.google.com/edu>

Amina Al Sherif  (elle) · 1st

Computational linguist/ Generative AI Specialist| Zoogler |Advisor |
Consultant | Author | Novelist | Student

San Antonio, Texas, United States · [Contact info](#)

Charles Elliott  (He/Him) · 1st

Data + AI Leader | Advisor | Educator | Researcher | Board Member

Alpharetta, Georgia, United States · [Contact info](#)

1,971 followers · [500+ connections](#)

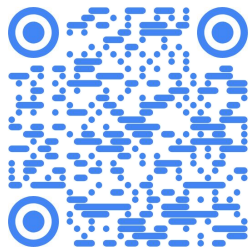
Will Grannis  · 2nd

VP and CTO, Google Cloud

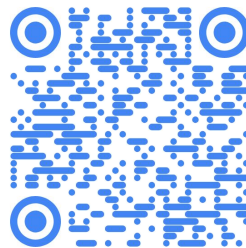
Austin, Texas, United States · [Contact info](#)

20,256 followers · [500+ connections](#)

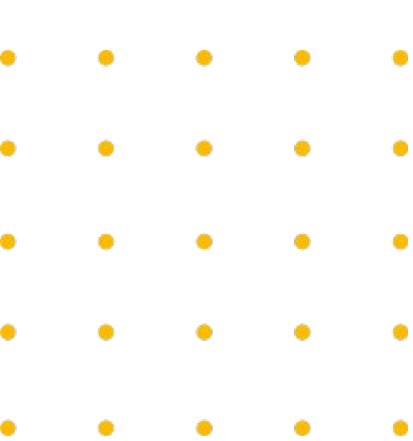
Thank you



Scan to access keynotes, 100+ breakout sessions, and more from [Google Cloud Next'24](#)



Download our [GenAI Guide for Education](#)



Thank You

